



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/676,321      | 09/30/2003  | Henrik T. Jensen     | BP2964              | 6482             |

51472 7590 05/10/2006

GARLICK HARRISON & MARKISON LLP  
P.O. BOX 160727  
AUSTIN, TX 78716-0727

|          |
|----------|
| EXAMINER |
|----------|

NGUYEN, SIMON

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2618

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/676,321             | JENSEN, HENRIK T.   |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | SIMON D. NGUYEN        | 2618                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 20-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-10, 20-29 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 7,027,780.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the invention are broader than the claims in the application. In particular, the term "IF or intermediate frequency" in the application is obvious the same meaning of "a pre-compensated digital information" in the invention.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Mollenkopf et al. (6,845,083).

Regarding claim 1, Mollenkopf discloses a transmitter, comprising: a digital processor for modulates digital data to produce a baseband signal and converts to a digitized IF signal (column 6 line 59 to column 7 line 35, column 8 lines 28-43); a DAC (134,136) for receiving the digitized IF signal to covert to a continuous waveform IF signal; a filter(138, 140) for receiving the continuous waveform IF signal to produce an IF signal and a loop filter (fig.14) for filtering the IF signal to a RF signal (figs. 8, 12-14, column 9 lines 15-65, column 11 line 1 to column 12 line 55).

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Nguyen et al. (20036,845,083).

Regarding claim 1, Nguyen discloses a transmitter (figs.7-10), comprising: a digital processor (20) for modulates digital data to produce a baseband signal and

converts to a digitized IF signal; a DAC (68) for receiving the digitized IF signal to convert to a continuous waveform IF signal; a filter(80) for receiving the continuous waveform IF signal to produce an IF signal and a loop filter (54) for filtering the IF signal to a RF signal (figs. 7-10, paragraphs 37, 43-65).

6. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Baker et al. (6,606,483).

Regarding claim 1, Baker discloses a transmitter (fig.2), comprising: a digital processor (202) for modulates digital data to produce a baseband signal and converts to a digitized IF signal; a DAC (204) for receiving the digitized IF signal to convert to a continuous waveform IF signal; a filter(205) for receiving the continuous waveform IF signal to produce an IF signal and a loop filter (210) for filtering the IF signal to a RF signal (figs. 2, column 5 line 32 to column 6 line 12).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 20-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mollenkopf et al. (6,845,083) in view of Dartois (6,289,056).

Regarding claim 20, this claim is rejected for the same reason as set forth in claims 1, wherein Mollenkopf discloses a GSM communication system (column 9 line 2). It should be noted that Mollenkopf disclosing the sampling rate for application depending on the requirement or choice for a particular application, wherein Mollenkopf discloses the sampling rate is 25 MHz or 10 MHz and the sampling rate can be multiplied by four or eight (column 9 lines 1-14, column 10 lines 39-67). However, Mollenkopf does not specifically disclose the DSP producing the sample rate of 338 MHz.

Dartois discloses a multi-mode GSM/DCS system, comprising the sampling rate of an ADC is 26 MHz which multiplies by 4 = 104 MHz or multiplies by 8= 208 MHz (column 9 line 27 to column 10 line 35, column 11 lines 1-5, fig.4). It should be noted that Dartois does not specifically disclose a multiple of 13 to get 338 MHz sampling rate, however, with the multiple by 13 times of 26 MHz, the sampling rate of the ADC will be 338 MHz. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Mollenkopf, modified by Dartois in order to meet requirement for to a bit rate and to a channel spacing of each application.

Regarding claims 21-22, Dartois discloses the IF frequency is equal to 26 MHz and the sample rate of the DAC generate harmonic tones that are located outside of the specified frequency band of interest (column 9 line 27 to column 10 line 35, fig.4).

Regarding claims 23-29, Mollenkopf further discloses the transmitter generating 800, MHz, 900 MHz, 1800 MHz, 1900 MHz by using the translational loop with the

Art Unit: 2618

divider having a division factor (column 11 line 64 to column 12 line 17). However, Mollenkopf does not specifically disclose dividing by two or not dividing by two.

It should be noted that Mollenkopf disclosing the PLL having the divider for dividing a N factor to meet the requirement of 800, 900, 1800, 1900 MHz transmission which is obvious to have the divider either to divide by 2 or not divide by two in order to meet a signal transmission.

9. Claims 2-4 rejected under 35 U.S.C. 103(a) as being unpatentable over Mollenkopf et al. (6,845,083) in view of Abdelgany et al. (20030193923).

Regarding claim 2, Mollenkopf further discloses the loop comprising a phase detector, a reference signal, a feedback loop (fig.14). It should be noted that a phase locked loop having a charge pump, a loop filter, and an oscillator are known in the art. However, Mollenkopf does not specifically mention so.

Abdelgany discloses a multi-mode multi-band transceiver, (figs. 3-9) having a translation loop, wherein the loop comprising a charge pump, a loop filter, and an oscillator (paragraph 61, 94, 98, 103, 110). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Mollenkopf, modified by Abdelgany in order to remove noise.

Regarding claim 3, Mollenkopf further discloses a divider (200) for dividing the oscillation (fig.14).

Regarding claim 4, Mollenkopf further discloses a filter (197) for filtering the oscillation to produce the feedback signal. However, Mollenkopf does not specifically disclose a down converter.

Abdelgany further discloses the transceiver comprising a mixer and a filter for down converting (figs.3-6).

10. Claims 5-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Mollenkopf et al. (6,845,083) in view of Abdelgany et al. (20030193923), and further in view of Dartois (6,289,056).

Regarding claims 5-10, Mollenkopf discloses the IF signal having a frequency of 15 MHz or 25 MHz depending on different kinds of application, wherein the application is a GSM protocol (column 9 lines 1-14) and a sampling rate is chosen as an even number, such as a multiple of four or eight (column 10 lines 39-67). However, Mollenkopf does not specifically disclose the IF signal is equal to 26 MHz, a sampling rate that is a multiple of 26 MHz, the sample rate of the DSP is equal to 104 MHz or 338 MHz.

Dartois discloses a multi-mode GSM/DCS system, comprising the sampling rate of an ADC is 26 MHz with a multiplier by four or eight, wherein the sampling rate 26 MHz multiplies by 4 = 104 MHz or multiplies by 8= 208 MHz (column 9 line 27 to column 10 line 35, column 11 lines 1-5, fig.4). It should be noted that Dartois does not specifically disclose a multiple of 13 to get 338 MHz sampling rate, however, with the multiple by 13 times of 26 MHz, the sampling rate of the ADC will be 338 MHz.



Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have modified Mollenkopf, modified by Dartois in order to meet requirement for to a bit rate and to a channel spacing of each application.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
600 Dulany, Alexandria, VA 22314

Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Hand-delivered response should be brought to Customer Service Window located at the Randolph Building, 401 Dulany, Alexandria, VA, 22314.

Simon Nguyen

*Simon Nguyen*  
4/27/06  
SIMON NGUYEN  
PRIMARY EXAMINER